Industry Profiles

Mining and Oil and Gas Extraction Industry

Revised: February 2008

Alberta Employment, Immigration and Industry

Overview:

The Mining and Oil and Gas Extraction industry[1] in Alberta includes companies involved in activities such as:

- exploring for crude petroleum and natural gas;
- drilling, completing and equipping wells;
- operating separators, emulsion breakers, desilting equipment and field gathering lines for crude petroleum;
- mining for coal, metal ore, and non metallic mineral mining and quarring; and
- other activities in the preparation of oil and gas up to the point of shipment from the producing property.

Section A: Business Environment
1. Employment and Unemployment Numbers and Rates
2. Industry Growth
3. Company Size
Section B: Human Resources Profile
1. Occupational Information
2. Demographics: Age and Gender
3. Wages
Section C: Additional Information
1. Links to Industry Associations
2. Links to Government Library Database

[1] North American Industry Classification System (NAICS) groups 211, 212, 213

Section A: Business Environment

1. 2006 Employment and Unemployment Numbers and Rates:

	Alberta	Mining and Oil and Gas Extraction Industry
Number of employed	1,870,700	135,600
Percent employed in the industry		7.2%
Number of unemployed	66,800	4,200
Unemployment rate	3.4%	3%

For more information on employment numbers or for a historical comparison, go to the Labour Force Survey or Statistics Canada websites.

2. Industry Growth:

- The Mining and Oil and Gas Extraction industry is expected to grow on average 2.8% annually from 2006 to 2011.
- Approximately 19,723 jobs will be created in the forecast period. Employment is expected to increase to 155,373 by 2011.
- This industry is expected to provide 8.4% of all new jobs in Alberta between 2006 and 2011.

For more information, see the Alberta Modified Canadian Occupational Projection System Outlook (2006-2011) online and the Alberta Learning Information Service (ALIS) website's industry descriptions.

Outlook

Forecasts are predicting strong growth in Alberta's Mining and Oil and Gas Extraction industry. *Canada's Oil Extraction Industry: Industrial Outlook, Winter 2007,* projected that the price of oil should remain above $57 per barrel, and $63 per barrel by 2011.

Although Alberta will be the dominant producer of natural gas and oil in Canada, its share of conventional resources is projected to decline due to the maturity of the reserves and natural depletion. However, it is presumed that non-conventional resources, such as coal-bed methane, may offset the declining natural gas reserves. The National Energy Board forecasts explosive growth in Alberta's coal-bed methane industry.

The life of conventional oil producing wells has been extended as marginal wells are more economic due to the high oil price environment. It is estimated that the share of conventional oil production should decline from one of every two barrels produced today to one in five barrels by 2020. Oil sands production, which surpasses one million barrels per day, is projected to reach between three and four million barrels per day by 2020. This production will more than offset the declines seen in conventional oil production and should account for more than eighty per cent of total Canadian crude oil production.

A formal review of Alberta's oil sands royalty rates, that includes input from stakeholders across Alberta, has been completed. Restructuring possibilities are being reviewed to determine if changes are needed in the current regime to reflect the current oil market. A significant challenge to providing a transparent fiscal regime for oil sands has been the continued challenge of managing project capital costs in recent years. Contributing factors include increased inflation, high labour costs, a shortage of skilled workers, significant cost increases for construction materials, and related overhead expenses.

Coal mining in the province should continue to strengthen over the medium-term due to the additional energy required by Alberta's fast-growing economy. Its long-term future is uncertain as continued pressure to reduce carbon emissions rise. Research into clean coal technology is

being undertaken by members of the Canadian Clean Power Coalition to reduce greenhouse gas emissions and find ways of using coal to power Alberta's growing heavy industry through gasification processes. Some companies have already announced intentions to develop and research clean coal technology that would improve the operating performance of coal and reduce the environmental footprint of the resource.

3. Company Size

Establishment Size	Alberta Businesses		Mining and Oil and Gas Extraction*	
	Number of Employees	%	Number of Employees	%
Less than 20 employees	525,000	34.1%	25,900	21.2%
20 to 99 employees	543,600	35.3%	39,100	32.0%
100 to 500 employees	292,400	19.0%	27,100	22.2%
Over 500 employees	178,900	11.6%	29,800	24.4%

Data Source: Labour Force Historical Review 2006, Statistics Canada

*Fishing, Mining, Oil and Gas is grouped with Forestry and Logging with Support Activities for establishment size.

Section B: Human Resources Profile

1. Occupational Information:

Some examples of occupations in the Mining and Oil and Gas Extraction industry include:

- mining engineer;
- blaster;
- drilling and service rig managers;
- petroleum engineer; and
- drilling rig leasehand/floorhand.

For a complete listing of all occupations related to this industry as well as detailed information on education and skill requirements, visit the Alberta Occupational Profiles website.

2. Demographics: Age and Gender

According to the Labour Force Survey, the gender break-down in the Mining and Oil and Gas Extraction industry is as follows:

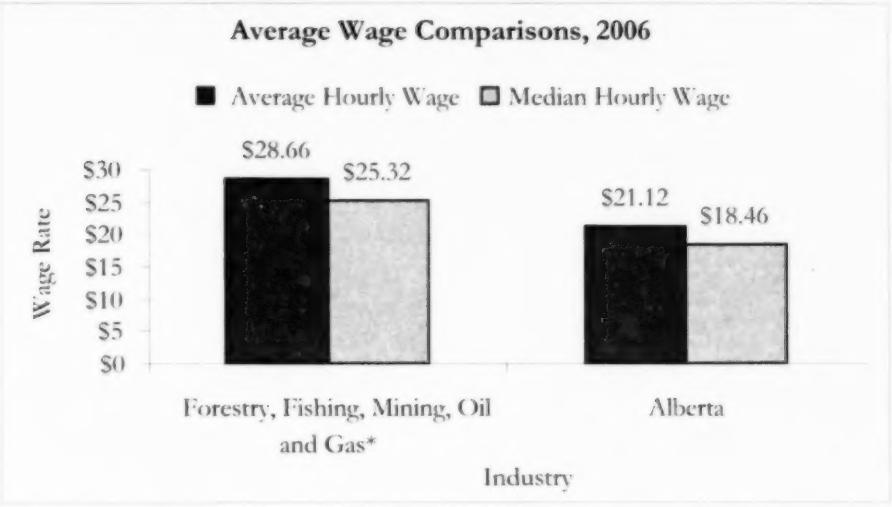
- women employed: 34,500 people, or 25.4%
- men employed: 101,100 people, or 74.6%

In comparison, women accounted for 45.3% and men made up 54.7% of the total employed in Alberta.

Age Characteristics	Alberta Employees		Mining and Oil and Gas Extraction	
	Number	%	Number	%
15-24 years	329,600	17.6%	21,500	15.9%
25-54 years	1,286,500	68.8%	102,000	75.2%
55 years and over	254,600	13.6%	12,100	8.9%

Data Source: Labour Force Historical Review 2006, Statistics Canada

3. Wages:



Data Source: Labour Force Historical Review 2006, Statistics Canada
*Forestry and Logging is grouped in with Mining and Oil and Gas Extraction due to the size of sectors.

Wage and Salary Information for Selected Occupations

Occupation	Average Hourly Wage			Average Annual Salary
	Starting	After 3 years	Top	
Petroleum engineers	$ 32.71	$ 45.41	N/A	$ 123,797
Oil and gas well drilling workers and services operators	$ 19.81	$ 21.08	$ 33.02	$ 61,623
Truck drivers	$ 17.59	$ 20.51	$ 19.03	$ 47,411

Data Source: 2005 Alberta Wage and Salary Survey
Note: N/A due to insufficient response.

For more information on wages, refer to the WAGEinfo webpage. For job descriptions, duties, required skills and education for specific occupations in the Mining and Oil and Gas Extraction industry, visit the ALIS website.

Section C: Additional Information

1. Links to Selected Industry Associations:

- Canadian Association of Oilwell Drilling Contractors
- Canadian Association of Petroleum Producers
- Canadian Institute of Mining, Metallurgy and Petroleum
- Coal Association of Canada
- Petroleum Human Resources Council of Canada
- Petroleum Services Association of Canada
- Petroleum Technology Alliance Canada

2. Link to Government Library Database:

http://www.servicelink.gov.ab.ca/libraries/workplace/